

【ABSTRACT】

The present invention relates to a gas concentrator, which produces concentrated gas by applying a pressure difference to adsorbent having selective adsorption property to specific gas from mixed gas and by separating the specific gas. According to the present invention, there is provided the gas concentrator, comprising a filter for filtering out impurities from the mixed gas; a plurality of adsorption beds containing the adsorbent for separating the specific gas from the mixed gas supplied via the filter and including a backflow prevention means formed on channels through which the separated gas is discharged therefrom; a small pipe for interconnecting the channels at production stages of the adsorption beds with each other to perform processes of cleaning and applying vacuum pressure to the adsorption beds; a vacuum pumping means which is connected to a channel for supplying the mixed gas to the adsorption beds and generates the pressure difference caused from a difference between the a vacuum pressure and a pressure of the mixed gas; a valve means comprising a channel base of a single body formed with channels respectively connected to the adsorption beds, the channel for supplying the mixed gas, and the vacuum pumping means, and solenoid drivers mounted in the channel base for switching the channels formed in the channel base in order to alternately apply the vacuum pressure and the pressure of the mixed gas to the adsorption beds; and a gas supplying means for controllably supplying the mixed gas supplied from the filter to the gas separated and produced from the adsorption beds and then supplying a target space with the gas of which flow rate and concentration is controlled.